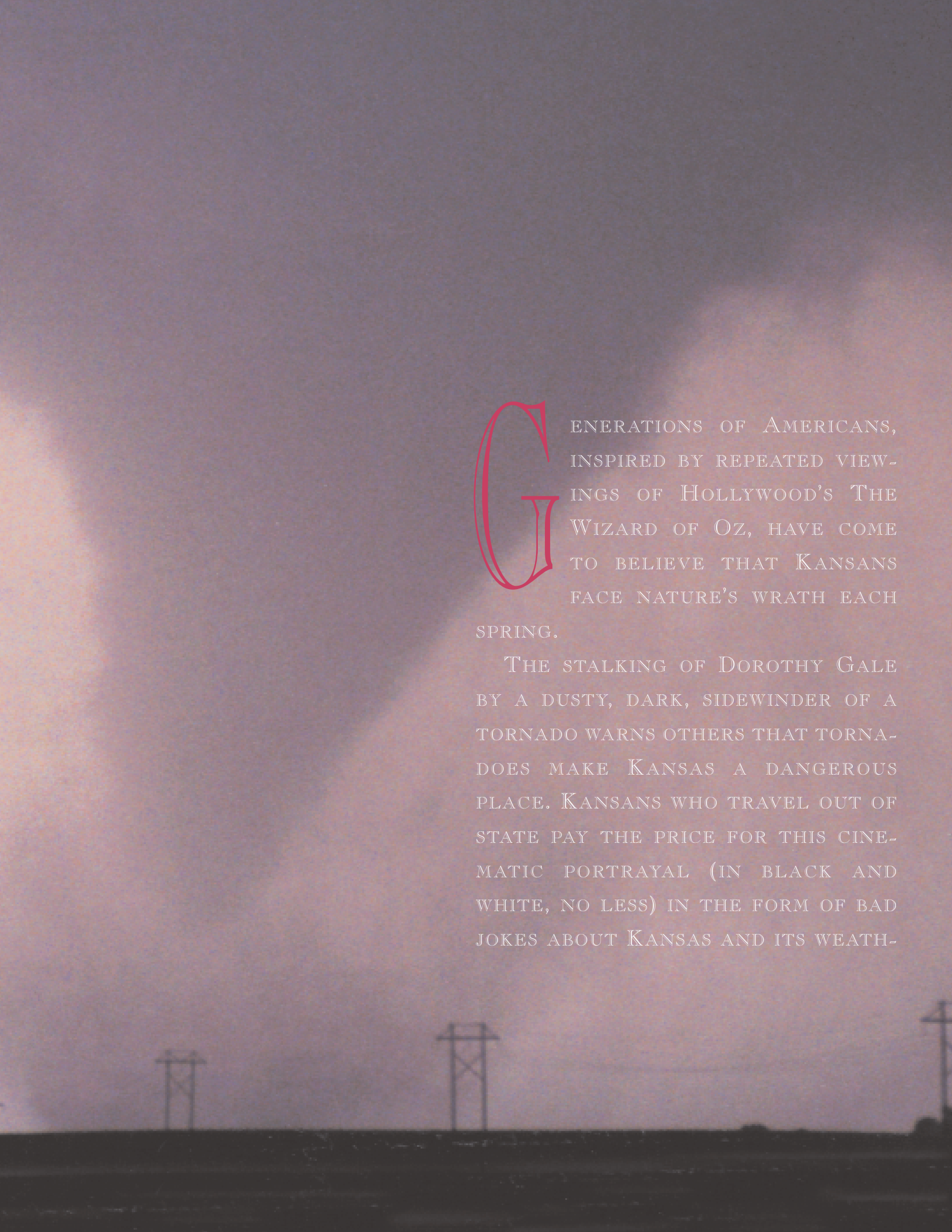
SURVIV-ING THE

"It's coming . . . If you're not under cover now, for God's sake, take cover!"

—Bill Kurtis

STORY AND COLOR PHOTOGRAPHY
BY JAY ANTLE



Generations of Americans, inspired by repeated viewings of Hollywood's The Wizard of Oz, have come to believe that Kansans face nature's wrath each spring.

The stalking of Dorothy Gale by a dusty, dark, sidewinder of a tornado warns others that tornadoes make Kansas a dangerous place. Kansans who travel out of state pay the price for this cinematic portrayal (in black and white, no less) in the form of bad jokes about Kansas and its weath-

The story of whirling horror coming without warning may make for effective cinematography, but it is hardly good history. The real story of Kansans and tornadoes is far more complex than a movie script and involves issues of perception, myth-making, scientific research, and adaptation rather than just fear and destruction. It is important to remember how devastating tornadoes can be and why they inspire awe and trepidation. After all, it is the destructiveness of tornadoes that causes Kansans to follow a spring ritual of dashing madly to the basement or storm cellar while clutching beloved pets or prized possessions, all performed to the monotonous drone of a storm warning siren.

On the evening of May 25, 1955, the Kansas town of Udall in Cowley County was nearly wiped off the face of the earth by a strong tornado that proved to be the twenty-fifth deadliest in American history. In this instance, confusion between the National Weather Service and Wichita media outlets left Udall residents with a false sense of security. Most went to bed not knowing a supercell thunderstorm with a history of tornado production in Oklahoma was headed their way. Only those listening to a single Wichita radio station or receiving panicked calls through the local telephone service knew the danger. Outside phone connections with Udall broke at 10:29 P.M., and shortly thereafter the tornado, rated retrospectively as an F5 (wind speeds of at least 260 miles per hour), left a damage path of approximately fifty miles in length and up to a half mile wide.

Rescue workers pulled eighty bodies from

TOP: Supercell thunderstorms, like that depicted here, spawn the majority of tornadoes. CENTER: Despite its distant appearance, tornadoes can cover many miles at frightening speeds. RIGHT: The 1955 Udall tornado, like many such storms, produced odd patterns in its path of destruction. For example, at this home only the family

A tornado provides an eerie backdrop for this Central Plains farmer. The twister's rope-like appearance indicates that it is in a weakened stage.

wrecked buildings in Udall and nearby Oxford. One survivor compared the ruins of Udall to a field wiped clean in preparation for construction. House foundations stood almost free of debris while the town's water tower lay in a crumpled ruin. Half of the families in Udall lost at least one family member in the disaster. State and local officials, prompted by the lack of warning given Udall residents, redoubled their efforts to provide more effective warnings to the public through spotter groups. Because of this horrible disaster, on March 8, 1959, the National Weather Service held the country's first public spotter training course in Wellington, Kansas, which was attended by 225 severe weather spotters. During this fiftieth anniversary of the Udall tornado, that terrible night and the improvements in tornado warnings it inspired are worth commemoration.

Beyond the incredible destructiveness of tornadoes, Kansans have marveled at the oddities left in the wake of these occurrences and the capriciousness of the twisters' behavior. During World War I the people of Codell certainly felt as if they were living in no-man's land as the town and surrounding countryside were hit by tornadoes on the same day, May 20, in three consecutive years: 1916, 1917, and 1918.

Storm survivors commonly relate stories about damage to their towns. Twisters have been known to take out houses in odd patterns, knocking down perhaps five structures in a row, skipping one entirely, and then destroying several more. Around 1880 Susan Duggan, who lived north of Hope, Kansas, was caught in a local tornado that picked her up and carried her "a ways," dropping her very much alive but very unfortunately into a hedge row, which probably did more damage to her than the wind did. On November 10, 1915 (Kansas often endures a second brief period of severe weather activity in the early fall), Great Bend suffered what one tornado historian has called the most oddity-filled tornado in recorded history. The winds lifted five horses, carried them more than a quarter mile, and deposited then largely unharmed. On the east side of town, the tornado killed more than one thousand sheep while launching a canceled check from Great Bend high into the updraft. That check fell to earth two hundred miles to the northeast near Palmyra, Nebraska. One report from the Cheyenne Bottoms Wildlife Refuge claimed that this tornado killed more than forty thousand migrating birds.

Kansans offered creative explanations of the odd, apparently unpredictable behavior of tornadoes. The Great Bend tornado of 1915 defied one such explanation. A local legend held that an Indian medicine man told settlers that Great Bend would be forever safe from tornadoes because of its position on the Arkansas River. Many Kansans believed well into the twentieth century that their respective towns were protected by such topographical features as hills, rivers, or valleys, often attributing these legends to Indian wisdom. The most famous example comes from Topeka. As the story goes, Burnett's Mound on the southwest side of the city would protect the town from tornadoes as long as it was undisturbed. Despite the warnings of Topeka resident Snowden Flora (an early expert on tornadoes) that the mound held no protective qualities, many Topekans were shocked on June 8, 1966, when an F5

ABOVE: The tornado that devastated Topeka on June 8, 1966, was classified as an F5, the most destructive type. Many residents clung to the belief that geographic barriers such as Topeka's Burnett's Mound (seen in the distance) would prevent the storms from hitting the city. Because the tornado came over the mound with little difficulty, this mythology was quickly disproven. CENTER: A tornado touches down, stirring up a cloud of debris on the ground. RIGHT: The 2001 tornado near Pratt cuts

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tornado swept over Burnett's Mound and moved through the heart of Topeka, taking sixteen lives in the process. Some locals blamed the building of a water tower on the hill for breaking the mound's protective spell.

The origins of such topographical myths are understandable given the primitive state of tornado science in the late nineteenth century. Amateur meteorologists in Kansas variously attributed tornado behavior to perturbations in the earth's magnetic field, unusual sunspot activity, and even recently strung electrified telegraph lines. In that context, stories about topography protecting Kansas towns sound perfectly reasonable, especially given the small odds that any given town would be hit by a tornado. Since 1950 Kansas has averaged approximately fifty tornadoes per year (2004 was a record year with 124), which averages one tornado for every two counties in the state. One meteorologist suggests that each acre of Kansas would encounter a tornado every 2,060 years. Given that the vast majority of tornadoes are not the violent F4s and F5s like the Udall, Great Bend, and Topeka tornadoes mentioned earlier, it is likely that each acre in Kansas would encounter a violent tornado only every five thousand to twenty thousand years.

Given these statistics, it is not surprising that tornadoes hit unpopulated areas more often than populated areas. Unpopulated areas simply account for a greater portion of the state. In the late nineteenth century, residents identified the land around their living spaces by using such familiar land forms as rivers,

hills, and valleys. If a tornado didn't hit one's farmstead, it might, for example "take to the Blue River" or "be deflected by Hogback Ridge." Given the deep psychological need for frontier-era Kansans to predict tornado behavior, the relative infrequency of the storms, and the importance that topographical features played in Kansans' perception of the landscape, it is not at all surprising that Kansans attributed protective qualities to the topography itself. As to Indian origins of these stories, the historical record provides scant evidence to back those claims.

Kansans also coped with tornadoes by defending the state when the rest of the nation identified Kansas with twisters. Indignant editorials protesting such linkage began before The Wizard of Oz and continued long after Dorothy clicked her heels on celluloid. Witness, for example, one rebuttal by the Belleville Telescope about a 1947 Life magazine article that called Kansas "the cyclone state." After noting that five states had more tornadoes than Kansas over the previous two decades, the editorial concluded that the rest of the country was ignorant of how good things were in Kansas. The occasional tornado did not keep Kansas from being the nation's breadbasket and a well-educated state, having the highest college enrollment per capita in the country. Any linkage of Kansas and tornadoes led to a knee-jerk reaction upholding the honor of the state as a whole. Over the past two decades, this attitude has softened.

Today, while Kansans may tire of comments about tornadoes from out-of-staters, they have made an uneasy peace with the wisecracks. Rather than reacting with surprise or annoyance when confronted with such stereotypes, many Kansans smile, tell stories about their personal experiences with storms, or perhaps point visitors to the local truck stops that sell tornado postcards and t-shirts. Since the Udall tornado, achievements in tornado research and more sophisticated radar and spotter networks have led to improved warnings and dramatically reduced loss of life. It is this greater scientific understanding of tornadoes that surely explains Kansans' more recent willingness to adapt to this wondrous, destructive force that defines spring in our state.